

In the Claims:

Please amend the claims as follows:

1. (currently amended) A method for communicating data in a time division multiple access system where the data (~~PL, RF~~) is transmitted wirelessly between stations (~~MS1-MS6; BS1-BS3~~) in time slots ( $s(i)$ ), the time slots ( $s(i)$ ) being organized in frames ( $F(i)$ ) of a repeating frame structure ( $F_1, F_2, F_3$ ), the stations (~~MS1-MS6; BS1-BS3~~) selecting time slots ( $s(i)$ ) for transmission of data (~~PL, RF~~) according to a self organizing transmission algorithm which allows a first station ( $MS_1$ ) to reuse a time slot that is allocated to a second station (~~MS2-MS6, BS2, BS3~~), the method involving comprising:

transmitting an addressed message ( $M^{M^1}_{Adr}$ ) from a first base station ( $BS_1$ ) to a mobile station ( $MS_1$ ),

transmitting, in response to the addressed message ( $M^{M^1}_{Adr}$ ), an acknowledgement message ( $Aek^{M^1}_{B_1}$ ) from the mobile station ( $MS_1$ ), and

repeating the transmission of the addressed message ( $M^{M^1}_{Adr}$ ) from the first base station ( $BS_1$ ) to the mobile station ( $MS_1$ ) until either a message handling entity ( $MHE$ ) being responsible for the transmission of the addressed message ( $M^{M^1}_{Adr}$ ) has received the acknowledgement message ( $Aek^{M^1}_{B_1}$ ) or a maximum number ( $n_{max}$ ) of retransmissions has been performed, **characterized by**

receiving the acknowledgement message ( $Aek^{M^1}_{B_1}$ ) in a second base station ( $BS_2$ ),

forwarding the acknowledgement message ( $Aek^{M^1}_{B_1}$ ) from the second base station ( $BS_2$ ) to the message handling entity ( $MHE$ ), the message handling entity ( $MHE$ ) being connected to a network ( $N$ ) to which both the first base station ( $BS_1$ ) and the second base station ( $BS_2$ ) are connected, either directly or via at least one intermediate node, and

receiving the acknowledgement message ( $Ack^{M1}_{B1}$ ) in the message handling entity (MHE) via the network (N).

2. (currently amended) A method according to claim 1, characterized by further comprising forwarding the acknowledgement message ( $Ack^{M1}_{B1}$ ) via the network (N) to the message handling entity (MHE) within the first base station (BS1).
3. (currently amended) A method according to claim 1, characterized by further comprising forwarding the acknowledgement message ( $Ack^{M1}_{B1}$ ) via the network (N) to a node in the network (N) which is separated from the first base station (BS1).
4. (currently amended) A method according to ~~any one of the preceding claims~~, characterized by claim 1, wherein the self-organizing transmission algorithm permits only permitting the first station (MS1) to reuse a time slot (s(i)) allocated to a base station (BS2, BS3) if the base station (BS2, BS3) is located outside a threshold distance ( $D_{th}$ ) from the first station (MS1).
5. (currently amended) A method according to claim 4, characterized by wherein the self-organizing transmission algorithm permitting permits the first station (MS1) to reuse a time slot (s(i)) allocated to a mobile station (MS2-MS6) that is located at any distance from the first station (MS1).
6. (currently amended) A method according to ~~any one of the claims 4 or 5~~, characterized by claim 1, wherein the first station (MS1) being is a mobile station.
7. (currently amended) A computer program directly loadable into the internal memory of a digital computer, comprising software for accomplishing the steps of ~~any of the claims 1-6~~ claim 1 when said program is run on a computer.

8. (currently amended) A computer readable medium, having a program recorded thereon, where the program is to make a computer accomplish the steps of ~~any of the claims 1—6 recited in claim 1.~~

9. (currently amended) A message handling entity (MHE) for controlling data communication between at least one base station (BS1, BS2) and at least one mobile station (MS1—MS4) in a time division multiple access system where the data is transmitted wirelessly between the stations (MS1—MS6, BS1—BS3) in time slots (s(i)), the time slots (s(i)) are organized in frames (F(i)) of a repeating frame structure (F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>), the stations (MS1—MS6; BS1—BS3) select time slots (s(i)) for transmission of data (PL, RF) according to a self-organizing transmission algorithm which allows a first station (MS1) to reuse a time slot that is allocated to a second station (MS2—MS6, BS2—BS3), comprising:

a memory area (850) adapted to hold status information pertaining to an addressed message ( $M^{M1}_{Adr}$ ) sent from a first base station (BS1) to a particular mobile station (MS1), an interface (860) towards a network (A) adapted to

send a control message ( $C^M_{MS1}$ ) ordering the first base station (BS1) to transmit an addressed message ( $M^{M1}_{Adr}$ ) to the mobile station (MS1),

receive an acknowledgement message ( $Aek^{M1}_{B1}$ ) from a second base station (BS2), the acknowledgement message ( $Aek^{M1}_{B1}$ ) having been generated by the mobile station (MS1) in response to the addressed message ( $M^{M1}_{Adr}$ ) and sent to the second base station (BS2), and

forward the acknowledgement message ( $Aek^{M1}_{B1}$ ) for

processing in the message handling entity (MHE), and a central unit (840) adapted to

order retransmission of the addressed message ( $M^{M1}_{Adr}$ )

from the first base station (BS1), if after a pre-determined interval

( $T_{Ret}$ ) from the transmission of the addressed message ( $M^{M1}_{Adr}$ ),

the status information remains intact in the memory area (850),

order repeated retransmission a maximum number of times

( $n_{max}$ ), and

receive the acknowledgement message ( $Ack^{M1}_{B1}$ ), and in

response thereto, clear the status information in the memory area

(850).

10. (currently amended) A base station (BS1) for communicating data with at least one other station (MS1-MS4) in a time division multiple access system where the data is transmitted wirelessly between the stations (MS1-MS6; BS1-BS3) in time slots (s(i)), the time slots (s(i)) are organized in frames (F(i)) of a repeating frame structure (F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>), the stations (MS1-MS6; BS1-BS3) select time slots (s(i)) for transmission of data (PL, RF) according to a self-organizing transmission algorithm which allows a first station (MS1) to reuse a time slot that is allocated to a second station (MS2-MS6, BS2-BS3), comprising

a transmitter (1110) adapted to transmit an addressed message ( $M^{M1}_{Adr}$ ) to a mobile station (MS1),

a memory area (1150) adapted to hold status information pertaining to the addressed message ( $M^{M1}_{Adr}$ ),

a receiver (1120) adapted to

receive an acknowledgement message ( $Aek^{M^4}_{B_1}$ ) generated by the mobile station ( $MS_1$ ) in response to the addressed message ( $M^{M^4}_{Adr}$ ), and

forward the acknowledgement message ( $Aek^{M^4}_{B_1}$ ) for processing in the base station ( $BS_1$ ), and a central unit ( $1140$ ) adapted to

retransmit the addressed message ( $M^{M^4}_{Adr}$ ), if after a predetermined interval ( $T_{Ref}$ ) from the transmission of the addressed message ( $M^{M^4}_{Adr}$ ), the status information remains intact in the memory area ( $1150$ ), repeat the retransmission a maximum number of times ( $n_{max}$ ), and

receive the acknowledgement message ( $Aek^{M^4}_{B_1}$ ), and in response thereto, clear the status information in the memory area ( $1150$ ),

**characterized in that it comprises:** and

an interface ( $1160$ ) towards a network ( $N$ ) to which at least one other base station ( $BS_2$ ) is connected, the interface ( $1160$ ) being adapted to receive acknowledgement messages ( $Aek^{M^4}_{B_1}$ ) from the at least one other base station ( $BS_2$ ) and forward any such messages to the central unit ( $1150$ ).

11. (currently amended) A base station ( $BS_1$ ) according to claim 10, **characterized in that** wherein the receiver ( $1120$ ) is adapted to receive acknowledgement messages ( $Aek^{M^4}_{B_2}$ ) in respect of at least one other base station ( $BS_2$ ), and the interface ( $1160$ ) is further adapted to

forward acknowledgement messages ( $Ack^{M4}_{BS2}$ ) received in respect of the at least one other base station ( $BS2$ ) to the respective at least one other base station ( $BS2$ ) via the network ( $N$ ).